

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A process for recovering a precious metal from a precious metal-containing material, comprising:
 - (a) providing a heap of the precious metal-containing material; and
 - (b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap.
2. (Original) The process of claim 1, wherein the molecular oxygen is in the form of a gas and the thiosulfate lixiviant and molecular oxygen flow countercurrently through the heap.
3. (Original) The process of claim 1, wherein the molecular oxygen is introduced under pressure into the heap by a network of conduits positioned in the base of the heap.
4. (Original) The process of claim 1, wherein the thiosulfate lixiviant has a pH of no more than about 9 before introduction to the heap and wherein the precious metal-containing material is agglomerated.
5. (Original) The process of claim 1, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 2,000 ppm and a dissolved copper content of no more than about 20 mg/L.
6. (Original) The process of claim 1, wherein at least about 0.5 kg of molecular oxygen/ton of heap material is introduced into the heap during leaching.

7. (Original) The process of claim 1, wherein a dissolved molecular oxygen content of the lixiviant is at least about 1 mg/L.
8. (Canceled)
9. (Currently Amended) A process for recovering a precious metal from a carbonaceous precious metal-containing material, comprising:
 - (a) providing a refractory, carbonaceous precious metal-containing material; and
 - (b) contacting the carbonaceous precious metal-containing material with a thiosulfate-containing lixiviant, wherein the lixiviant contains a blinding agent and wherein the blinding agent is selected from the group consisting of a hydrocarbon, an alcohol, an ester, an aldehyde, a lauryl sulfonate, a phosphate, guar gum, starch, cellulose, a metal salt, and a surfactant other than the foregoing compounds.
10. (Currently Amended) The process of claim 9, wherein the blinding agent ~~includes one or more of hydrocarbons, alcohols, esters, aldehydes, surfactants, lauryl sulfonates, phosphates, guar gum, starch, cellulose, and metal salts~~ is an organic compound.
11. (Original) The process of claim 9, wherein the thiosulfate lixiviant includes at least about 0.1 mg/L blinding agent.
12. (Original) The process of claim 9, wherein the thiosulfate lixiviant includes at least about 1 mg/L blinding agent.
13. (Original) The process of claim 9, wherein the thiosulfate lixiviant includes from about 2 to about 200 mg/L blinding agent.

14. (Canceled)

15. (Currently Amended) A process for recovering a precious metal from a precious metal-containing material, comprising:

- (a) providing a particulate precious metal-containing material;
- (b) contacting the precious metal-containing material with a thiosulfate lixiviant and a calcium-containing material, the calcium-containing material comprising a calcium carbonate;
- (c) after the contacting step, forming the precious metal-containing material into agglomerates, wherein the agglomerates comprise particles of the precious metal-containing material, thiosulfate lixiviant, and calcium-containing material;
- (d) forming the agglomerates into a heap; and
- (e) thereafter passing the thiosulfate lixiviant through the heap to form a pregnant leach solution in which ~~at least most~~, if not all, of the precious metal content of the precious metal-containing material is dissolved.

16. (Original) The process of claim 15, wherein the calcium-containing material is a base.

17. (Currently Amended) The process of claim 15, wherein the calcium-containing material further comprises ~~[[is]]~~ at least one of ~~calcium carbonate~~, calcium oxide, calcium chloride, calcium nitrate, calcium thiosulfate, calcium hydroxide, and mixtures thereof.

18. (Original) The process of claim 15, wherein the agglomerates further comprise copper.

19. (Original) The process of claim 15, wherein the agglomerates further comprise a base other than the calcium-containing material.

20. (Original) The process of claim 15, wherein the calcium content of the agglomerates is at least about 0.1 kg/tonne of agglomerates.

21. (Original) The process of claim 18, wherein the agglomerates comprise at least about 1 gram/tonne of added copper.

22. (Original) The process of claim 15, wherein the agglomerates comprise at least one of particles of cement and a blinding agent.

23. (Canceled)

24. (Original) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) contacting a thiosulfate lixiviant with a precious metal-containing material to form a pregnant leach solution, the pregnant leach solution comprising a dissolved precious metal, thiosulfate, polythionate, and sulfate; and

(b) maintaining a dissolved sulfate concentration in the pregnant leach solution of no more than about 150 g/L.

25. (Original) The process of claim 24, wherein the maintaining step comprises:

(c) precipitating sulfates with calcium.

26. (Original) The process of claim 24, wherein the maintaining step comprises:

(c) removing sulfates from at least a portion of the pregnant leach solution and/or a solution derived therefrom.

27. (Currently Amended) The process of claim 25, wherein the calcium is selected from the group consisting essentially of calcium carbonate, ~~calcium oxide~~, calcium chloride, calcium nitrate, calcium thiosulfate, calcium hydroxide, and mixtures thereof.

28. (Original) The process of claim 25, further comprising:

(d) contacting the calcium with the pregnant leach solution and/or a solution derived therefrom, and wherein the amount of calcium is at least about 0.1 kg/tonne of precious metal-containing material.

29-36. (Canceled)

37. (New) The process of claim 9, wherein the blinding agent is an inorganic compound.

38. (New) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material, the lower portion of the heap comprising a network of aerating pipes;

(b) passing a thiosulfate lixiviant through the heap to form a pregnant leach solution comprising dissolved precious metals;

(c) while the thiosulfate lixiviant is passing through the heap, passing molecular oxygen through the network of aerating pipes and heap countercurrently to the flow of the thiosulfate lixiviant; and

(d) thereafter recovering dissolved precious metal from the pregnant thiosulfate lixiviant.

39. (New) The process of claim 38, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before passage through the aerating pipes and wherein the molecular oxygen is forced through the aerating pipes using at least one of a compressor, blower, and fan.

40. (New) The process of claim 38, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 1 inch H₂O greater than ambient atmospheric pressure.

41. (New) The process of claim 38, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 30 inch H₂O greater than ambient atmospheric pressure.

42. (New) The process of claim 38, wherein at least about 0.5 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

43. (New) The process of claim 38, wherein from about 1 to about 10 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

44. (New) The process of claim 38, wherein at least about 2 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

45. (New) The process of claim 38, wherein from about 4 to about 40 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

46. (New) The process of claim 38, wherein the thiosulfate lixiviant has a pH of less than pH 9 before introduction to the heap and wherein the precious metal-containing material is agglomerated.

47. (New) The process of claim 38, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 2,000 ppm and a dissolved copper content of no more than about 20 mg/L.

48. (New) The process of claim 38, wherein a dissolved molecular oxygen content of the lixiviant is at least about 1 mg/L.